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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,239	11/25/2002	Kyongtae T. Bae	43880/8852	6332

21888 7590 03/23/2007  
THOMPSON COBURN, LLP  
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ST LOUIS, MO 63101

EXAMINER
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DANG, DUY M

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/009,239

Applicant(s)

BAE ET AL.

Examiner

Duy M. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-8 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 3-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's amendment filed on January 12, 2007 has been entered and made of record.
2. The objection of the disclosure is now withdrawn in view of the Amendment filed on January 12, 2007.

### ***Drawings***

3. Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see page 1 lines 6-8 of the specification). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In this case, claim 3 recites the limitation "***controlling the compression by specifying a maximum allowable error between a reconstructed pixel value and an original pixel value to be within two standard deviation of a random noise variance***" in last four lines. There is insufficient support and/or written description in the specification for this limitation in the claim. The specification fails to provide/describe such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the claimed "random noise variance" is found no support in the instant specification. At best understood, the instant specification mentions the word "noise" and refers it to: (1)***intrinsic noise in the CT acquisition process*** (see line 10 of page 7 of the specification); (2)***physical noise*** (see line 11 of page 7 of the specification); (3)***prime noise*** (see lines 12-13 of page 7 of the specification); (4)***signal-to-noise*** (see line 13 of page 7 of the specification); (5)***low-level white noise*** (see line 12 of page 10 of the specification); and (6)***high-level structural noise*** (see line 18 of page 10 of specification). Is any of these noises referred to the so called "random noise" and/or "random noise variance"? Please spell it out.

Furthermore, no where in the specification is found to support and/or describe for the recitation of "two standard deviation of a random noise variance".

Therefore, the instant specification fails to provide support or adequate written description for "two standard deviation of a random noise variance" which is used to specify a maximum allowable error between a reconstructed pixel value and an original pixel value in order to control the compression.

In addition, claim 4 recites the limitation "controlling the compression by specifying the maximum allowable error between a reconstructed pixel value and an original pixel value

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includes controlling the allowable error to be within two counts” in lines 1-4. There is insufficient support and/or written description in the specification for this limitation in the claim. At best, the instant specification mentions “*The amount of compression is controlled by specifying the maximum allowable error between an original pixel value and the reconstructed one, e.g., error=2 means that all the pixels in the final image will be within 2 counts of their original value*” (see lines 6-9 of page 7 of the specification) but the “2 counts” in this portion of the specification does not appears to be the so called “two counts” recited in the claim.

Claims 4-8 depend from claim 3 and thus are rejected for the same reasons as above.

***Allowable Subject Matter***

6. Claim 16 is allowed.

7. The following is an examiner’s statement of reasons for allowance:

Regarding claim 16, the cited prior art fails to teach or suggest a method for compression CT scan digital projection data obtained using an x-ray tube and a known electrical current pass through the tube, with compression allows for later reconstruction of medically useful images from compressed data, said method comprising the steps of: assembling the CT scan digital projection data in a format suited for compression; compressing the CT scan digital projection data with compression software into compressed data set; and determining a compression ratio based in part of multiplying the x-ray tube current and scanner collimation that was used in the CT for generating.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


*Conclusion*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy M. Dang whose telephone number is 571-272-7389. The examiner can normally be reached on Monday to Friday from 6:00AM to 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

dmd  
3/20/07

  
**DUY M. DANG**  
**PRIMARY EXAMINER**